

Colorado & Southern Railway  
Denver Roundhouse Complex  
Platte River Valley Area  
Denver  
Denver County  
Colorado

HAER No. CO-56

HAER  
COLO,  
16-DENV  
55-

---

**PHOTOGRAPHS  
HISTORICAL AND DESCRIPTIVE DATA**

---

Historic American Engineering Record  
Department of the Interior  
National Park Service  
Rocky Mountain Regional Office  
P.O. Box 25287  
Denver Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

Colorado & Southern Railway Denver Roundhouse Complex  
HAER No. CO-56

HAER  
COLO,  
16-DEN  
55 -

Location: Seventh Street, approximately one-half mile northeast of the intersection of the South Platte River and Interstate 25, Denver, Colorado.  
UTM: 13/498860/4399720  
Ft. Logan, Colorado Quad.

Date of Construction: 1900 (Modified in 1919 and 1959.)

Present Owner: Burlington Northern Railroad  
373 Inverness Drive South  
Englewood, CO 80112

Present Use: Abandoned.

Significance: The Colorado & Southern Railway Denver Roundhouse Complex is a significant property associated with the history of railroading in Colorado. It represents the last of Denver's once numerous roundhouses, and includes one of the few remaining examples of a Burlington design turntable.

Historian: Rebecca Herbst  
October 1988

## HISTORY

The formation of the Colorado & Southern Railway in 1898 had its roots in the landmark railway consolidation which took place in Colorado nearly a decade earlier. That consolidation occurred on April 1, 1890 when the Union Pacific, Denver & Gulf Railway Company, a newly formed subsidiary of the Union Pacific, took control of twelve branch rail lines, including the Colorado Central, the Cheyenne & Northern, the Denver, Texas & Gulf, and the Denver, Texas & Fort Worth. The initial management of the UPD&G, however, failed to make the massive system profitable and the company went into receivership following the Silver Crash of 1893. These holdings ultimately passed into the capable hands of Frank Trumbull, who began a gradual rebuilding of the system.

In December 1898, the UPD&G and the Denver, Leadville & Gunnison, another former Union Pacific subsidiary, were reorganized as the Colorado & Southern Railway. The merger of these two railroad giants created a system of over 1,000 miles, including standard and narrow gauge trackage. The new corporation, supported with a capital of \$48,000,000, commenced operation under President Frank Trumbull on January 11, 1899.<sup>1</sup>

During the first year of its operation, the C&S occupied the Union Pacific's 40th Street Shop in North Denver on a joint lease with the Pullman Palace Car Company. When the Pullman Company opted to take full occupancy of the shops for the construction and repair of sleeping cars at the end of 1899, the C&S was compelled to find new quarters. With its small shops at Pueblo and Trinidad inadequate for repairs, Denver seemed the logical location to provide the needed facilities:

Ever since the formation of the company, shops for Denver have been under contemplation...The company owns considerable valuable ground, two large tracts in South Denver, and quite a plat on Seventh Street near the Platte River. Plans are under headway for modern shops, to be supplied with electrical contrivances for facilitating work and 500 or 600 men will be given employment besides.<sup>2</sup>

The Seventh Street location, convenient to the Union Depot passenger station and adjacent to the tracks of two other railroads (the Burlington & Missouri River and the Atchison, Topeka & Santa Fe), was selected as the most advantageous for the new shops. Originally the site of the Denver & New Orleans shops erected in 1883, the D&NO complex had been shut down in 1891, when the operations of the line (at that time controlled by the UPD&G) were transferred to the Union Pacific shops. After acquiring the property in 1899, the C&S razed the older roundhouse and shop buildings.<sup>3</sup>

In March 1900, the C&S filed a building permit for its railway shop complex, specifying a construction cost of \$125,000.<sup>4</sup> But the subsequent acquisition of the Colorado & Midland Railway, a joint transaction with the Denver & Rio Grande Western, led to a revised proposal to double the size and cost of the shops.<sup>5</sup> The revision projected an expenditure of \$350,000; \$260,000 for the buildings and shop yard and an additional \$90,000 for machinery.<sup>6</sup>

Plans for the complex, by Chief Engineer H.W. Cowan, represented the state-of-the-art in railroad shop design and included a thirty-five stall roundhouse, a 323 by 125-foot machine and erecting shop and paint, car and wood shops.<sup>7</sup> Due to the railroad grade crossing at Seventh Street, the plans dictated that the roundhouse and shops be located on opposite sides of the street. Connection between the roundhouse yard and the main yards across Seventh Street was

provided by a track leading to the turntable and a railroad siding extending through the shops directly into the roundhouse. Three tracks running south of the roundhouse accessed the freight yards south of Wewatta Street, conveniently eliminating freight engine dead mileage.

The building construction reflected a solid but uniformly functional design, as described in an article in the Railroad Gazette:

All the buildings will be of pressed brick with stone trimmings and the foundations will be rubble masonry walls on concrete footings. They will all present a similar appearance, as the same lines have been followed throughout and no attempt has been made to provide elaborate decorations. The ornamentation is simple and well suited for shop buildings. The plans show ample windows and skylights and all the buildings will be well lighted, particularly as the atmosphere of Denver is remarkably clear.<sup>8</sup>

Except for the predominant use of wood, the roundhouse reflected these same design principals used in the other buildings.

The building was constructed throughout of yellow pine except for the posts, for which 12 by 12-inch Oregon fir timbers were used.<sup>9</sup> Unlike the C&S shop buildings, it also incorporated a wood rather than a steel truss roof system. The semi-circular structure measured 80 feet in section and 21 feet in height from the floor to the roof beams (see Figure 1, attached). The exterior walls of the building were sheathed in brick and the foundations and rear parapet were of masonry construction. Four brick firewalls were included for the protection of the interior structure. The roof, built with a continuous center ridge, was finished with a tongue and groove covering. For ventilation, the roundhouse was provided with Pickering smoke jacks and projecting skylights, 10 feet 2 inches in section, above each pit.<sup>10</sup> The roundhouse trackage included eight narrow gauge tracks, one four-rail track, twenty-six standard

gauge tracks and one three-rail track. Two droppits were provided, one each for standard and narrow gauge engines. A 64-foot diameter Keystone turntable was employed, probably operated by an electric motor.

Completed under contract to the William J. Hill Construction Company of Denver,<sup>11</sup> the new Seventh Street shops were opened in August 1900. The most complete service facilities on the C&S system, the shop complex handled all main line engines as well as those of the narrow gauge lines to Central City, Georgetown, South Park, Leadville and Gunnison. It also provided service to the Santa Fe line between Denver and Pueblo and to the Chicago, Burlington & Quincy, following a merger with that company in 1908.

The ever-increasing size of locomotives required the modification of the roundhouse facility twice in its first two decades. In 1904, the company installed an 80-foot turntable, which was in turn replaced with the present 100-foot turntable in 1919.<sup>12</sup> The 1919 modification also included the extension of the fifteen easternmost stalls of the roundhouse and the addition of a new five stall section at the northeast corner.

The 100-foot turntable, a standard Burlington "bent truss" design, was one of about twenty similar structures built by the company and is one of the few that exist today.<sup>13</sup> The Chicago Bridge & Iron Company fabricated the steel components for the structure, comprised of channel and angle sections riveted together with lacing bars and cover plates, and a sloping top chord of eyebars pinned at the center member. Powered by D.C. current, it was operated by a standard streetcar control mechanism.<sup>14</sup>

Due to rapidly changing railroad technology and the shift from steam to diesel power in the 1930s, the Seventh Street railway shops were gradually phased out of use. In 1923, the C&S and Burlington opened a \$3 million joint service shop at West 50th Avenue and Delaware in North Denver, relegating the old C&S shops to minor repairs. The two companies earmarked nearly \$2 million more in 1929 for improvements to the 38th Street yards and the CB&Q engine plant and roundhouse on 23rd Street.<sup>15</sup> The Seventh Street passenger car shops were ultimately closed in 1933, and the locomotive backshops in 1940. Twenty stalls on the west side of the roundhouse were razed during the 1940s, and another fifteen in 1959.<sup>16</sup> The remaining five stall section remained in use by the C&S until about 1976, when it was leased by the Service Transportation Company. Abandoned in recent years, it is presently owned by the Burlington Northern Railroad, the successor company to the CB&Q.

Today, little remains of the original C&S shop complex at Seventh Street. In addition to the five stall roundhouse remnant and turntable, only railroad trackage, a concrete sand tower and ruins of other structures remain on the property. The roundhouse remnant, a portion of the original 1900 structure lengthened in 1919, retains its historic appearance except for the west wall, replaced with cement block in 1959. The interior wood post and beam construction and roof truss remain intact but the electrical boxes and craneway machinery have been stripped. The turntable is in fair condition with the rail tracks and timber and steel mesh decking intact. The frame operator's booth adjacent to the structure is in deteriorating condition with little of the original machinery left.

While only a remnant of the original Seventh Street shops remains, the Colorado & Southern Railroad Roundhouse Complex represents a significant property associated with the history of railroading in Colorado. Moreover, the section of the roundhouse that remains is the last of Denver's once-numerous roundhouses, and a rare example in Colorado. The turntable, too, is a rare survival of a structural design unique to the Burlington Railroad.



FOOTNOTES

<sup>1</sup>Jerome Smiley, History of Denver (Denver: Times-Sun Publishing Company, 1901), p. 618.

<sup>2</sup>"Colorado and Southern has a Busy Season," Denver Times, December 31, 1899, p. 30, c. 2.

<sup>3</sup>Kent Forrest and Charles Albi, Denver's Railroads (Golden: Colorado Railroad Museum, 1971), p. 192.

<sup>4</sup>"Colorado & Southern Will Double Shops," Denver Times, April 1, 1900, p. 6, c. 1.

<sup>5</sup>Ibid.

<sup>6</sup>"New Shops and Yards of the Colorado & Southern Railway," The Railroad Gazette, Vol. 32, No. 24, June 15, 1900, p. 394.

<sup>7</sup>Ibid.

<sup>8</sup>Ibid., p. 395.

<sup>9</sup>Ibid., p. 396.

<sup>10</sup>Although the original plans specified non-continuous ventilators, a continuous clerestory appears on one ten stall section in historic photographs and on maps. This section was probably modified during the 1919 remodelling of the roundhouse.

<sup>11</sup>"New Shops and Yards of the Colorado & Southern Railway," p. 396.

<sup>12</sup>The 80-foot turntable was moved to another roundhouse at Cheyenne, Wyoming and eventually scrapped.

<sup>13</sup>F. Hol Wagner, Jr., National Railway Historical Society, interview, October 19, 1988.

<sup>14</sup>Ibid.

<sup>15</sup>"Burlington and C&S to Spend \$2,600,000 in Denver," Denver Post, December 12, 1929, p. 1, c. 1.

<sup>16</sup>F. Hol Wagner, Jr.

APPENDIX

A. FIGURE 1, SECTION THROUGH ROUNDHOUSE

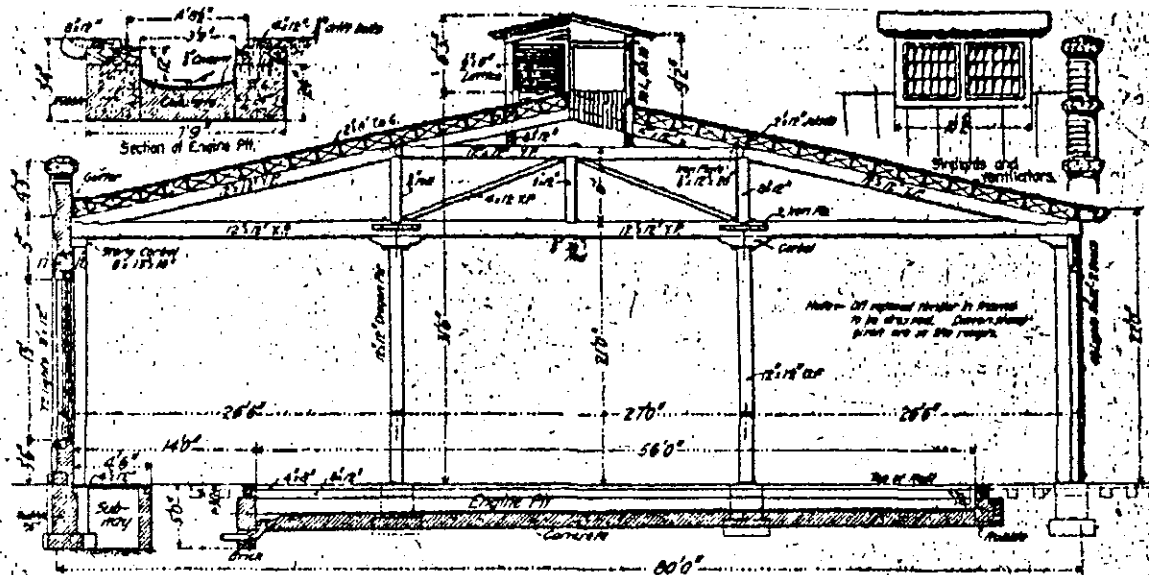


Fig. 6.—Section Through Round House.

Source: "New Shops and Yards of the Colorado & Southern," The Railroad Gazette, Vol. 32, No. 24, June 15, 1900, p. 394.

B. FIGURE 2, SITE PLAN OF COMPLEX

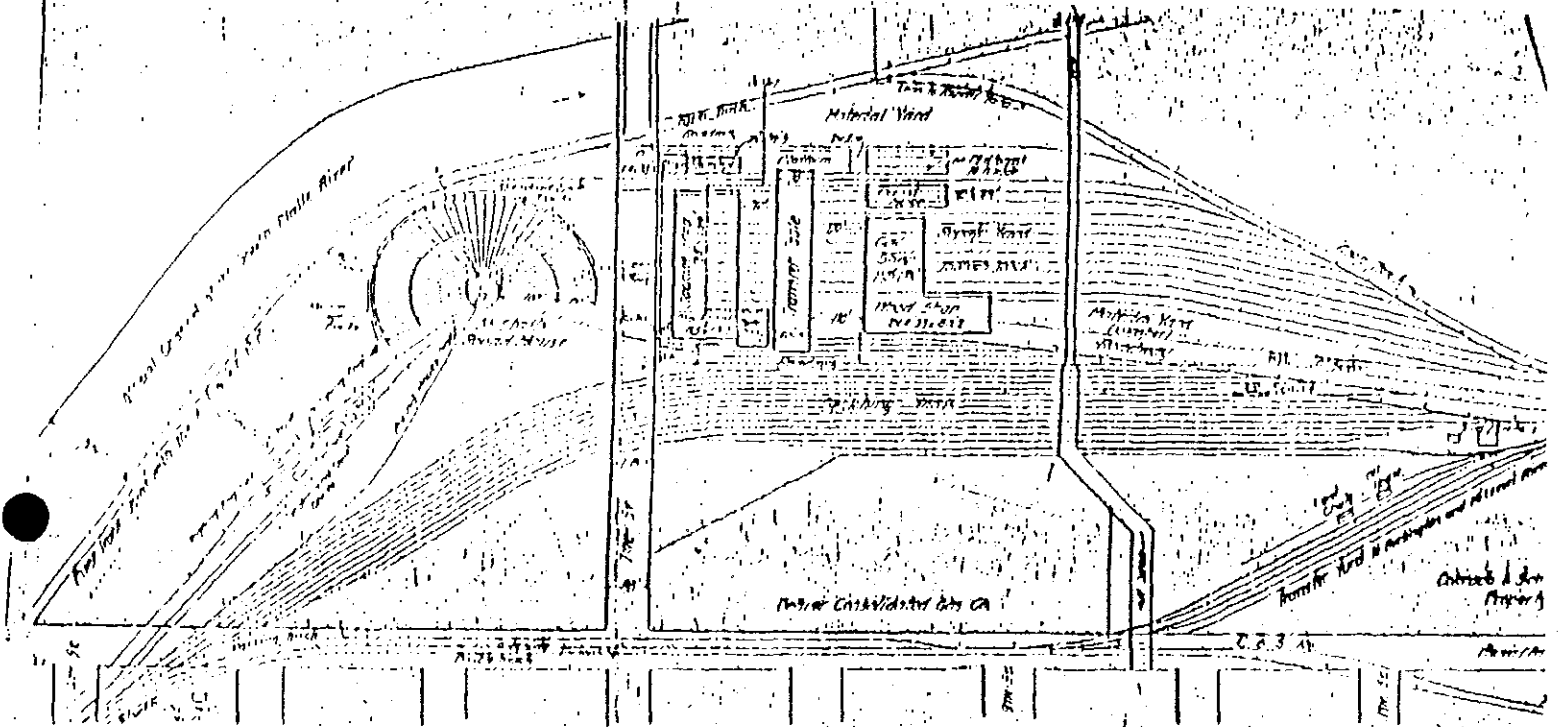


Fig. 1.—Plan of the New Shops and Yards of the Colorado & Southern Railway at Denver.

Source: "New Shops and Yards of the Colorado & Southern,"  
The Railroad Gazette, Vol. 32, No. 24, June 15, 1900, p. 391.

## BIBLIOGRAPHY

### A. BOOKS

- Albi, Charles and Forrest, Kenton. Denver's Railroads. Golden: Colorado Railroad Museum, 1981.
- Ehernberger, J.L. Gschwind F. C&S Northern Division. Callaway, Nebraska: E&G Publications, 1966.
- Smiley, Jerome. History of Denver. Denver: Times-Sun Publishing Company, 1901.
- Wagner, Jr., F. Hol. The Colorado Road. Denver: National Railway Historical Society, 1970.
- Wilkins, Tivis E. Colorado Railroads. Published by author, 1974.

### B. NEWSPAPERS AND PERIODICALS

- "Burlington and C&S to Spend \$2,600,000 in Denver." Denver Post, December 12, 1929, p. 1, c. 1.
- "Colorado & Southern Has a Busy Season." Denver Times, December 31, 1899, p. 30, c. 2.
- "Colorado & Southern Will Double Shops." Denver Times, April 1, 1900, p. 6, c. 1.
- "Gulf Lines Sold." Denver Times, November 19, 1898, p. 11, c. 1.
- "New Shops and Yards of the Colorado & Southern." The Railroad Gazette, Vol. 32, No. 24, June 15, 1900, pp. 394-396.

### C. MAPS

- Baist's Real Estate Atlas of the City of Denver. Philadelphia: G.W. Baist, 1905.
- Marsh, Halbert W. Marsh's Real Estate Map of the City and County of Denver. Denver: H.W. Marsh, 1918.
- Sanborn Map Company. Insurance Map of the City of Denver, Colorado. New York: Sanborn Map Co., 1929; 1950.

### D. UNPUBLISHED SOURCES

- Aherns, Chris. C&S Roundhouse Photograph, 1957. Located at the Denver Public Library, Western History Collection.

Denver Photo Company. Aerial Photographs of C&S Railroad Yards, c. 1930s.  
In the possession of the Burlington Northern.

Emrich, Ron and Norgren Barbara. "Architectural and Historical Survey  
of Downtown Denver." Platte Valley, Volume 2, 1984.

Wagner, Jr., F. Hol. Interview, October 19, 1988.